

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-27. (Cancelled).

Claim 28. (Currently Amended) The method of Claim 29 ~~for in vitro regeneration comprising~~, wherein said cells are of a liver section the following steps:

- ~~— provision of a liver sectate in vitro,~~
- ~~— induction of a significant structural growth of the sectate compared with an untreated sectate (control) growth of said cells is induced by through administration of treating, in vitro, a resection surface of said liver section with EPO, TPO, or GH or a derivatives thereof on the liver resection surface; and~~
- ~~— where appropriate, use of the treated sectate for the treatment of liver disorders.~~

Claim 29. (Currently Amended) A method for in vitro regeneration of tissue comprising ~~by~~ multiplying and differentiating adult tissue-specific cells in vitro, characterized in that the growth process of the cells is initiated and terminated, and structurally guided, through the use of the in the presence of exogenous growth factors thrombopoietin (TPO) and/or erythropoietin (EPO) or a derivative thereof, wherein the growth of said cells is locally initiated, terminated and structurally guided under the influence of EPO, and/or growth hormone (GH), in particular human growth hormone

~~(HGH), and/or somatostatin and/or leukemia inhibitory factor (LIF) and/or ciliary neurotropic factor (CNTF).~~

Claim 30. (Currently Amended) The method as claimed in claim 29, characterized in that wherein said cells are additionally cultured in the presence of at least one growth factor selected from the group consisting of transforming growth factor beta (TGF beta), prostaglandin, granulocyte-macrophage stimulating factor (GM-CSF), growth hormone releasing hormone (GHRH), thyrotropin-releasing hormone (TRH), gonadotropin-releasing hormone (GnRH), corticotropin-releasing hormone (CRH), dopamine, antidiuretic hormone (ADH), oxytocin, prolactin, adrenocorticotropin, beta-celitropin, lutotropin and/or vasopressin is employed additionally as growth factor.

Claim 31. (Currently Amended) The method as claimed in claim 29 or 30, characterized in that wherein said cells are additionally cultured in the presence of at least one factor selected from the group consisting of a one or more nerve regeneration factor, s, preferably nerve growth factor (NGF) and/or one or more and a vessel regeneration factors, preferably vascular endothelial growth factor (VEGF) and/or platelet derived growth factor (PDGF) are employed in addition.

Claim 32. (Currently Amended) The method as claimed in at least one of claims 29 or 30-31, ~~characterized in that the wherein said method~~ is carried out in the presence of endothelial cells.

Claim 33. (Cancelled).

Claim 34. (Currently Amended) The method as claimed in claim 33, ~~characterized in that wherein the growth process of the cells are grown is locally initiated and terminated, and structurally guided, by in the presence of a biological matrix~~

or ~~by~~ a supporting structure, which acts as an inductive substrate for three-dimensional growth.

Claim 35. (Cancelled).

Claim 36. (Currently Amended) The method as claimed in claim 34 ~~or 35, characterized in that~~ wherein the biological matrix or supporting structure is selected from the group consisting of an implant, a stent, a patch, a skin, a hydrogel, a bone substitute material, an allogenic acellularized or non-acellularized tissue, an autologous acellularized or non-acellularized tissue, a xenogenic acellularized or non-acellularized tissue, a synthetic tissue, a feeder and a fabrica transplant and/or a supporting material is used as biological matrix or as supporting structure for the growth of cells.

Claim 37. (Currently Amended) The method as claimed in ~~at least one of claims 29 to 36~~ claim 34, characterized in that wherein the biological matrix or supporting structure has been precolonized with cells that are selected from the group consisting of ~~, preferably~~ tissue-specific cells, precursor cells, bone marrow cells, peripheral blood, adipose tissue and/or fibrous tissue, ~~or already prepared in vitro for the in vivo colonization or the inductive remodeling.~~

Claims 38-52. (Cancelled).

Claim 53. (New) The method as claimed in claim 29, wherein said adult tissue-specific cells are at least one member selected from the group consisting of osteoblasts, fibroblasts, hepatocytes and smooth muscle cells.